CLAIMS

1. A stroboscopic display device including —

at least one carrier of light sources;

a rotary drive kinematically associated with said carrier of light sources by means of a shaft;

a plurality of light sources arranged on the external surface of said carrier;

a control means on the basis of a microprocessor to control said light sources; the control means comprising a sensor to signal said carrier position, a synchroniser to synchronise the operation of light sources, and program means to record and process the data to be displayed and generate commands to cut in and out said light sources

characterized in that —

(a) all the light sources are point light sources;

(b) the carrier is cantilevered onto a shaft of the rotary drive and formed as a carrier which has its —

shape corresponding to an appropriate revolution body generatrix,

thickness commensurable with the cross-section of a point light source, and

width, measured radially, which is sufficient for the carrier to illusorily disappear from the vision field of a spectator when gyrated;

(c) the optical axis of each light source is perpendicular to the revolution body generatrix which is formed by a selected shape of said carrier.

2. The device according to Claim 1 *characterized* in that —

(a) the thickness m of the carrier is defined by the expression

$d_{pls} < m \leq 9d_{pls}$

where d_{pls} is the cross-section of the light emitting surface of a point light source;

(b) the width B of the carrier is determined by the expression

$B \leq 0{,}35\ R_{max}$

where R_{max} is the radius of the circle described by the point light source which is maximally distanced from the axis of the drive shaft.

3. The device according to Claim 1 *characterized* in that it has in the geometrical plane of said carrier a balancer cantilevered onto the rotary drive shaft oppositely to the carrier.

4. The device according to Claim 3 *characterized* in that said balancer is formed as a carrier shaped correspondingly to an appropriate revolution body generatrix and furnished on its exterior with point light sources associated with said control means.

5. The device according to Claim 3 *characterized* in that the main carrier and/or the balancer are additionally furnished with point light sources on their interior which faces the drive shaft axis.

6. The device according to Claim 1 *characterized* in that in the geometrical plane situated with respect to the geometrical plane of said carrier under the angle φ selected from a range of $0° < \varphi < 180°$ there is cantilevered onto the drive shaft at least one additional carrier shaped correspondingly to an appropriate revolution body generatrix, which has exterior point light sources associated with said control means.

7. The device according to Claim 6 *characterized* in that the main and the additional carriers are shaped and dimensioned identically and placed with angular spaces approximately aliquot to 45°.

8. The device according to Claim 6 or 7 *characterized* in that each carrier has an opposite cantilevered balancer placed in the geometrical plane of this carrier.

9. The device according to Claim 8 *characterized* in that each balancer is shaped correspondingly to an appropriate revolution body generatrix and exteriorly furnished with point light sources associated with said control means.

10. The device according to Claim 1 *characterized* in that it has at least one additional rotary drive shaft spaced from the first drive shaft and rotationally synchronised with the latter by a synchronising means; the additional drive shaft having at least one cantilevered carrier shaped correspondingly to an appropriate revolution body generatrix.

11. The device according to Claim 10 *characterized* in that the main drive shaft and at least one additional drive shaft are associated with a common motor by a synchronising transmission.

12. The device according to Claim 10 or 11 *characterized* in that each pair of adjacent parallel drive shafts is synchronised in phase and placed with the space A defined by the expression

$$A < maxR_i + maxR_{i+1}$$

where $maxR_i + maxR_{i+1}$ is the sum of radii of circles described by the light sources maximally distanced from the axes of the corresponding drive shafts.

13. The device according to Claim 12 *characterized* in that it has more than two parallel drive shafts, each shaft having carriers shaped and situated identically in initial angular positions.

14. The device according to Claim 13 *characterized* in that each drive shaft, except for the first and the last ones, has an additional long carrier together with the main carrier, but the first and the last shafts have only short carriers shaped, dimensioned, and angularly positioned identically to the main carriers.

15. The device according to Claim 10 *characterized* in that it has two axially spaced coaxial drive shafts with at least one cantilevered carrier correspondingly shaped to an appropriate revolution body generatrix and placed in the axial space between said drive shafts.

16. The device according to Claim 15 *characterized* in that the coaxial shafts of the rotary drive are associated with a common motor through a synchronising transmission furnished with a control means to adjust the axial space between said drive shafts.

AMENDED CLAIMS

[received by the International Bureau on 9 April 2001 (09.04.01);
original claim 2 amended; remaining claims unchanged (1 page)]

1. A stroboscopic display device including —

at least one carrier of light sources:

a rotary drive kinematically associated with said carrier of light sources by means of a shaft;

a plurality of light sources arranged on the external surface of said carrier;

a control means on the basis of a microprocessor to control said light sources; the control means comprising a sensor to signal said carrier position, a synchroniser to synchronise the operation of light sources, and program means to record and process the data to be displayed and generate commands to cut in and out said light sources

characterized in that —

(a) all the light sources are point light sources:

(b) the carrier is cantilevered onto a shaft of the rotary drive and formed as a carrier which has its —

shape corresponding to an appropriate revolution body generatrix,

thickness commensurable with the cross-section of a point light source, and

width, measured radially, which is sufficient for the carrier to illusorily disappear from the vision field of a spectator when gyrated:

(c) the optical axis of each light source is perpendicular to the revolution body generatrix which is formed by a selected shape of said carrier.

2. The device according to Claim 1 *characterized* in that —

(a) the thickness m of the carrier is defined by the expression

$d_{pls} < m \leq 9d_{pls}$

where d_{pls} is the cross-section of the light emitting surface of a point light source;

(b) the width B of the carrier is determined by the expression

$B \leq 0.1\ R_{max}$

where R_{max} is the radius of the circle described by the point light source which is maximally distanced from the axis of the drive shaft.

3. The device according to Claim 1 *characterized* in that it has in the geometrical plane of said carrier a balancer cantilevered onto the rotary drive shaft oppositely to the carrier.